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10/564,043	06/30/2006	Patrick Pichat	P/3425-34	5755
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EXAMINER BASHAW, HEIDI M				
ART UNIT 3732		PAPER NUMBER		
NOTIFICATION DATE 07/09/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

### Office Action Summary

**Application No.**

10/564,043

**Applicant(s)**

PICHAT ET AL.

**Examiner**

HEIDI M. BASHAW

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) 4-9 and 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-13, 17-21 and 23-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 18 is objected to because of the following informalities: It is believed that "The nozzle piece of one of the claims 13-16" is in error for --The nozzle piece of claim 13 -- since claims 14-16 are directed at the non-elected claims. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siervo et al. 6,837,709 (Siervo) in view of Mabille 4,676,749.

3. Re claim 1, Siervo teaches a nozzle piece 2 for a dental powder jet apparatus adapted for an exchangeable assembly on a hand piece (col. 2, ll. 60-32) for discharging a mixture of air and a dental powder (col. 3, ll. 6-9) suitable for cleaning teeth in the area of a gum pocket as well as a discharge nozzle 7 for a fluid (col. 3, ll. 15-16). The front partial length is formed as a tube and is provided with nozzle openings in the lateral area of the front end of the tube (col. 3, ll. 21-22). The mouth of the discharge nozzle for the fluid is axially displaced backwards with respect to the discharge for the air-powder mixture as illustrated in fig. 2. Siervo further teaches the

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fluid discharge nozzle is disposed on one side, the outside, of the discharge nozzle for the air-powder mixture as illustrated in fig. 2.

4. Sierro does not specifically teach the nozzle openings for the air-powder-mixture and the discharge nozzle for the fluid have dimensions and are disposed such that an eddy or vortex formation is promoted.

5. Mabile teaches the nozzle openings for the air-powder-mixture and the discharge nozzle for the fluid having dimensions and disposed to promote a vortex formation (col. 4, ll. 53-57).

6. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sierro in view of Mabile in order to take advantage of the properties created by vortex formation as taught by Mabile (col. 4, ll. 57-68, col. 5, ll. 1-8).

7. Re claim 20, Sierro teaches the fluid discharge nozzle is concentrically arranged to the discharge nozzle for the air-powder mixture as illustrated in fig. 2.

8. Re claim 25, Sierro teaches the tube-shaped front partial length of the nozzle piece is made of plastic (col. 2, ll. 63-64).

9. Claims 2 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sierro et al. 6,837,709 (Sierro) in view of Mabile 4,676,749 further in view of Malmin 4,276,880.

10. Re claim 2, Sierro in view of Mabile does not teach the nozzle openings arranged in a common radial plane on the tube and spaced in regular or varying distances along the corresponding circumference of the tube.

11. Malmin teaches the nozzle openings arranged in a common radial plane on the tube and spaced in regular distances along the corresponding circumference of the tube as illustrated in figs. 6-7 (col. 6, ll. 1-4).

12. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sierro in view of Mabile further in view of Malmin in order to more effectively scrub and remove dentinal debris as taught by Malmin (col. 4, ll. 31-37).

13. Re claim 10, Sierro in view of Mabile does not teach the nozzle openings are elongated.

14. Malmin teaches the nozzle openings are elongated as illustrated in figs. 6-7.

15. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sierro in view of Mabile further in view of Malmin in order to more effectively scrub and remove dentinal debris as taught by Malmin (col. 4, ll. 31-37).

16. Re claim 11, Sierro in view of Mabile does not teach the longitudinal axis of the slot-shaped nozzle openings parallel to the main axis of the tube.

17. Malmin teaches the longitudinal axis of the slot-shaped nozzle openings being parallel to the main axis of the tube as illustrated in fig. 6.

18. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sierro in view of Mabile further in view of Malmin in order to more effectively scrub and remove dentinal debris as taught by Malmin (col. 4, ll. 31-37).

19. Re claim 12, *Sierro* in view of *Mabille* does not teach in one radial plane of the tube has at least three nozzle openings disposed along the corresponding circumference of the tube.

20. *Malmin* teaches two nozzle openings in one radial plane disposed along the corresponding circumference of the tube as illustrated in figs. 6-7 (col. 6, ll. 1-4). *Sierro* in view of *Mabille* further in view of *Malmin* does not teach three nozzle openings disposed in a radial plane along the corresponding circumference of the tube. However, it has been held that that mere duplication of parts has no patentable significance unless a new and unexpected result is produced (*In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) MPEP 2144.04 VI. B.).

21. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify *Sierro* in view of *Mabille* further in view of *Malmin* in order to more effectively scrub and remove dentinal debris as taught by *Malmin* (col. 4, ll. 31-37).

22. Claims 3, 13, 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Sierro et al.* 6,837,709 (*Sierro*) in view of *Mabille* 4,676,749 further in view of *Maita et al.* 4,993,941 (*Maita*).

23. Re claim 3, *Sierro* in view of *Mabille* does not teach the nozzle opening arranged in at least two different radial planes of the tube and the nozzle openings in one radial plane are twisted with respect to the nozzle openings in the other radial plane in the circumferential direction of the tube.

24. Maita teaches the nozzle opening arranged in at least two different radial planes of the tube and the nozzle openings in one radial plane are twisted with respect to the nozzle openings in the other radial plane in the circumferential direction of the tube as illustrated in fig. 1.

25. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sierrro in view of Mabilie further in view of Maita in order to dispense the cleaning solution in diverse directions as taught by Maita (col. 2, ll. 40-44).

26. Re claim 13, Sierrro in view of Mabilie does not teach the front end of the tube is closed.

27. Maita teaches, as illustrated in fig. 1, the front end of the tube is closed.

28. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Sierrro in view of Mabilie further in view of Maita in order to dispense the cleaning solution in diverse directions as taught by Maita (col. 2, ll. 40-44).

29. Re claim 17, Sierrro teaches the nozzle opening is asymmetrically formed as illustrated in fig. 2.

30. Re claim 23, Sierrro in view of Mabilie does not teach the tube-shaped front partial length of the nozzle piece having an arched shape ending at the nozzle openings of the discharge nozzle.

31. Maita teaches the tube-shaped front partial length of the nozzle piece having an arched shape ending at the nozzle openings of the discharge nozzle as illustrated in fig. 2.

32. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Siervo in view of Mabile further in view of Maita in order to adapt the nozzle to the area being cleaned as taught by Maita (col. 2, ll. 52-53).

33. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siervo et al. 6,837,709 (Siervo) in view of Mabile 4,676,749 in view of Maita et al. 4,993,941 (Maita) further in view of Wiek et al. 2005/0175960 (Wiek).

34. Re claim 18, Siervo in view of Mabile in view of Maita does not teach a deflection body provided at the axial nozzle opening.

35. Wiek teaches a deflection body 25 provided at the axial nozzle opening as illustrated in fig. 2.

36. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Siervo in view of Mabile in view of Maita further in view of Wiek in order to protect surrounding areas as taught by Wiek (par. 15).

37. Re claim 19, Siervo in view of Mabile in view of Maita does not teach the deflection body interchangeably mounted on the tube.

38. Wiek teaches the deflection body interchangeably mounted on the tube (par. 49).

39. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Siervo in view of Mabile in view of Maita further in view of Wiek in order to protect surrounding areas as taught by Wiek (par. 15).



40. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Siervo et al. 6,837,709 (Siervo) in view of Mabille 4,676,749 further in view of Wiek et al.

2005/0175960 (Wiek).

41. Re claim 21, Siervo in view of Mabille does not teach the fluid discharge nozzle provided with a diffuser shaped outlet cross section.

42. Wiek teaches the fluid discharge nozzle provided with a diffuser shaped outlet cross section 11 as illustrated in fig.1.

43. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Siervo in view of Mabille further in view of Wiek in order to adapt the nozzle to the treatment sight as taught by Wiek (par. 15).

44. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siervo et al. 6,837,709 (Siervo) in view of Mabille 4,676,749 further in view of Heil 4,340,366.

45. Re claim 24, Siervo in view of Mabille does not teach the nozzle piece having an oval cross section.

46. Heil teaches the nozzle piece having an oval cross section (col. 1, ll. 60-64).

47. It would have been obvious to one having ordinary skill in the art to modify Siervo in view of Mabille further in view of Heil in order to insure proper air/water intermixing as taught by Heil (col. 1, ll. 49-50).

48. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Siervo et al. 6,837,709 (Siervo) in view of Mabille 4,676,749 further in view of Linder 5,188,617.

49. Re claim 26, Siervo in view of Mabille does not teach a scale provided on the tube shaped front partial length of the nozzle piece.

50. Linder teaches a scale 19 on the tube shaped front partial length 17 of the nozzle piece 4.

51. It would have been obvious to one having ordinary skill in the art to modify Siervo in view of Mabile further in view of Linder in order to measure a distance as taught by Linder (col. 3, l. 42).

52. Claims 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siervo et al. 6,837,709 (Siervo) in view of Mabile 4,676,749 further in view of Bruns et al. 5,765,759 (Bruns).

53. Re claim 27, Siervo in view of Mabile does not teach the tube is composed of a single use product exchangeably mounted on the grip.

54. Burns teaches the tube 7 is composed of a single use product exchangeably mounted in the grip as illustrated in fig. 3.

55. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Siervo in view of Mabile further in view of Burns in allow for easy removal of the tube in the event the tube becomes clogged, damaged or worn as taught by Burns (col. 2, ll. 28-29).

56. Re claim 28, Siervo in view of Mabile does not teach the tube is held by a holding piece, which is rotatable relative to the grip.

57. Burns teaches the tube 7 is held by a holding piece 11, which is rotatable relative to the grip.

58. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Siervo in view of Mabile further in view of Burns in allow for easy

removal of the tube in the event the tube becomes clogged, damaged or worn as taught by Burns (col. 2, ll. 28-29).

### ***Response to Arguments***

1. Applicant's arguments filed March 17, 2008 have been fully considered but they are not persuasive. Applicant argues that the amendments made to claim 1 are not taught individually or in combination with any of the prior art references. However, Siervo teaches the added limitation of "the fluid discharge nozzle is disposed on one side of the discharge nozzle for the air-powder mixture." As illustrated in fig. 2, Siervo teaches the fluid discharge nozzle disposed on one side, the outside of the discharge nozzle for the air-powder mixture. Applicant further argues that Mabille teaching a vortex formation with the liquid orifice being concentric with the air-powder orifice is inapplicable here. However, the added limitation to claim 1, still reads on this formation of the nozzles, therefore, the combination of Siervo in view of Mabille is still applicable.

### ***Conclusion***

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HEIDI M. BASHAW whose telephone number is (571)270-3081. The examiner can normally be reached on Mon-Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on 571-272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**Heidi Bashaw**  
**Examiner**  
**Art Unit 3732**

**/John J Wilson/**  
**Primary Examiner**  
**Art Unit 3732**

HMB